

IN THE CLAIMS:

Kindly amend claims 1-4 and add new claims 5-13 as shown in the following listing of claims, which replaces all previous versions and listings of claims in this application.

1. (currently amended) A step motor control device for controlling operation of a step motor, the step motor control device comprising:

first and second switch elements ~~that are~~ connected to each other in series;

third and fourth switch elements ~~that are~~ connected to each other in series;

a coil of a step motor, the coil being ~~which is~~ connected between a connection point of the first and second switch elements and a connection point of the third and fourth switch elements;

a first series circuit ~~including~~ having a first detection element and a fifth switch element connected in parallel with the first switch element ~~and a first detection element~~;

a second series circuit ~~including~~ having a second detection element and a sixth switch element connected in parallel with the third switch element ~~and a second detection element~~;

a control means ~~that controls~~ for controlling an on/off operation of the first to fourth switch elements in response to a supplied drive pulse to allow a current to flow in the coil to rotationally drive the step motor, and for ~~controlling controls~~ an on/off operation of the ~~first, third, fifth, and~~ first, third, fifth and sixth switch elements in response to a rotation detection control pulse ~~that is~~ supplied during a rotation detection period immediately after the rotational drive of the step motor in accordance with the ~~supplied supply of the drive pulse is completed; is finished~~ in a rotation detection period immediately after the rotation drive of the step motor in accordance with the drive pulse; and

a detecting means ~~that detects~~ for detecting the presence/absence of the rotation of the step motor ~~on the basis of~~ in accordance with a comparison result ~~of~~ obtained by comparing a threshold voltage with a voltage generated between the coil and the first detection element of the first series circuit and with a voltage generated between the coil and the second detection element of the second series circuit. ~~elements and the coil with a given threshold voltage;~~

wherein the control means controls the on/off operation of the third switch element at a given frequency after a given period has elapsed in a state where the fourth

and fifth switch elements are turned on, or controls the on/off operation of the first switch element at a given frequency after a given period has elapsed in a state where the third and sixth switch elements are turned ~~on, and on;~~ and wherein the detecting means detects the presence/absence of the rotation of the step motor when the control means controls the on/off operation of the third switch element or the fourth switch element at a given frequency.

2. (currently amended) A step motor control device according to ~~claim 1, comprising: wherein~~ claim 1; wherein each of the third, fifth and sixth switch elements are made up of comprises an n-channel MOS transistors, and transistor; and wherein each of the second and fourth switch elements comprises a are made up of p-channel MOS transistors transistor.

3. (currently amended) A step motor control device according to ~~claim 1, comprising: wherein~~ claim 1; wherein each of the first and second detection elements comprises a resistor are made up of resistors.

4. (currently amended) An electronic timepiece comprising: a plurality of hands for indicating time; a step motor for rotating the hands; and that rotates time hands; and

a step motor control device according to claim 1 for
controlling operation of the step motor. ~~that rotationally~~
~~controls the step motor; wherein the step motor control device~~
~~according to claim 1 is used as the step motor control device.~~

5. (new) A step motor control device according to claim 1; further comprising comparing means for comparing the threshold voltage with the voltage generated between the coil and the first detection element of the first series circuit and with a voltage generated between the coil and the second detection element of the second series circuit.

6. (new) A control device for a step motor having a coil, the control device comprising:

first and second switch elements connected to each other in series, a node of the first and second switch elements being connected to one side of the coil during use of the control device;

third and fourth switch elements connected to each other in series, a node of the third and fourth switch elements being connected to the other side of the coil during use of the control device;

a first series circuit having a first detection element and a fifth switch element connected in parallel with the first switch element;

a second series circuit having a second detection element and a sixth switch element connected in parallel with the third switch element;

control means for controlling an on/off operation of the third switch element at a given frequency after a given period has elapsed in a state where the fourth and fifth switch elements are turned on; and

detecting means for detecting the presence/absence of the rotation of the step motor when the control means controls the on/off operation of the third switch element at the given frequency.

7. (new) A control device according to claim 6; wherein each of the third, fifth and sixth switch elements comprises an n-channel MOS transistor; and wherein each of the second and fourth switch elements comprises a p-channel MOS transistor.

8. (new) A control device according to claim 6; wherein each of the first and second detection elements comprises a resistor.

9. (new) An electronic timepiece comprising: a plurality of hands for indicating time; a step motor for rotating the hands; and a step motor control device according to claim 6 for controlling operation of the step motor.

10. (new) A control device for a step motor having a coil, the control device comprising:

first and second switch elements connected to each other in series, a node of the first and second switch elements being connected to one side of the coil during use of the control device;

third and fourth switch elements connected to each other in series, a node of the third and fourth switch elements being connected to the other side of the coil during use of the control device;

a first series circuit having a first detection element and a fifth switch element connected in parallel with the first switch element;

a second series circuit having a second detection element and a sixth switch element connected in parallel with the third switch element;

control means for controlling an on/off operation of the first switch element at a given frequency after a given period has elapsed in a state where the third and sixth switch elements are turned on; and

detecting means for detecting the presence/absence of the rotation of the step motor when the control means controls the on/off operation of the first switch element at the given frequency.

11. (new) A control device according to claim 10; wherein each of the third, fifth and sixth switch elements comprises an n-channel MOS transistor; and wherein each of the second and fourth switch elements comprises a p-channel MOS transistor.

12. (new) A control device according to claim 10; wherein each of the first and second detection elements comprises a resistor.

13. (new) An electronic timepiece comprising: a plurality of hands for indicating time; a step motor for rotating the hands; and a step motor control device according to claim 10 for controlling operation of the step motor.